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MATERIAL SAFETY DATA SHEET OF

IMIDACLOPRID 100G/L + BETA-CYFLUTHRIN 12.5 G/L SC

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Supplier: Shanghai Bosman Industrial Co., Ltd.

Street address: No.1611, North Sichuan Road, Hongkou District, Shanghai, P.R. China.

FAX: +86 21 63065878

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Product name: Imidacloprid 100 g/L + Beta-Cyfluthrin 12.5g/L SC

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formulation Type: Suspension concentrate (SC)

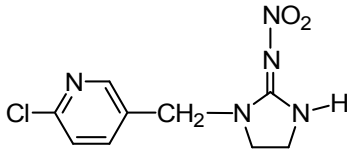
Active Ingredients: Imidacloprid, Beta-Cyfluthrin

Chemical Abstracts name:

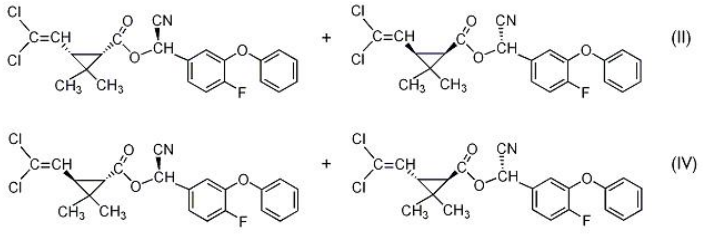
Imidacloprid: 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine

Beta-Cyfluthrin: cyano(4-fluoro-3-phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

Structural Formula:



Imidacloprid



Beta-Cyfluthrin

Composition:

INGREDIENT	CAS NO	PROPORTION (W/V)
Imidacloprid	138261-41-3	100g/l min
Beta-Cyfluthrin	68359-37-5	12.5g/l min
Inert ingredients	Not available	Up to 1 L

Other ingredients determined not to be hazardous

3. HAZARDS INDENTIFICATION

Emergency overview: Harmful! Harmful if swallowed. Avoid contact with skin and eyes. Keep locked up

and out of the reach of children.

Routes of entry: Ingestion, inhalation, contact with skin and eyes.

Health hazards:

Inhalation: Harmful if inhaled. Product is unlikely to cause any discomfort or irritation unless inhaled in large quantities.

Skin Contact: May cause irritant to skin.

Eye Contact: May cause irritant to eyes.

Ingestion: Harmful if swallowed.

Environmental hazards: Toxic to fish and aquatic arthropods. Toxic to bees.

4. FIRST AID MEASURES

General: Have the product container, label or Material Safety Data Sheet with you when going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

Skin contact: Wash off skin immediately with soap and plenty of water. Remove all contaminated clothing and shoes. Seek medical advice if irritation persists. Launder contaminated clothing before re-use.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes, holding eye open and taking care to rinse under eyelids as well. If irritation persists seek medical attention.

Ingestion: Wash out mouth with water. Do not induce vomiting. Keep patient at rest and seek medical advice.

Inhalation: Remove victim to fresh air. Seek medical advice if symptoms are experienced.

Note to physician: No specific antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash point: Not flammable.

Flammable limits:

LFL: Not determined.

UFL: Not determined.

Autoignition temperature: Not determined.

Hazardous combustion products: On burning will emit toxic fumes of carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, fluorine and hydrogen fluoride etc.

Extinguishing media: Foam, CO_2 or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

Media to be avoided: None known.

Fire-fighting instructions: Isolate fire area. Evacuate downwind. Do not breathe smoke, gases or vapors enerated.

Protective equipment for firefighters: Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENT RELEASE MEASURES

Personal precautions: Isolate and post spill area. Keep out unprotected persons and animals. Wear prescribed protective clothing and equipment.

Environmental precautions: Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

Method for cleaning up: In the case of spillage, contain and absorb spilled material with absorbent material such as sand, clay or cat litter. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of local or state regulations. To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

7. HANDLING AND STORAGE

Handling: Read the label before use. Ensure containers are kept closed until using product. Avoid skin and eye contact and breathing vapour. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow length nitrile gloves and face shield or goggles. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length nitrile gloves.

Storage: DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a locked room or place away from children, animals, food, feed stuffs, seed and fertilizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: No exposure limits have been established for this material.

Engineering controls: Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

Personal protective equipment (PPE):

Eyes and face: For splash, mist or spray exposure, wear chemical protective goggles or a face shield. Respiratory: For splash, mist or spray exposures wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides. Respirator use and selection must be based on airborne concentrations.

Protective clothing: Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

Gloves: Wear chemical protective gloves made of materials such as rubber, neoprene, or PVC. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

User safety recommendations: Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum, or using tobacco. Shower at the end of the workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light yellow clear liquid.

Boiling point: Not available.

Solubility in water: Emulsifiable.

Flammability: Not flammable.

Corrosive hazard: Non corrosive.

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions.

Conditions to avoid: Excessive heat and fire.

Hazardous decomposition: Carbon monoxide, carbon dioxide, chlorine, fluorine, hydrogen chloride, nitrogen oxide and hydrogen fluoride.

Incompatible materials: Strong oxidizing agents.

Hazardous reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Oral: LD_{50} >2000 mg/kg (rat)

Dermal: LD_{50} >2000 mg/kg (rats).

Inhalation: LC_{50} >2.0 mg/l (rats).

Irritant properties:

Skin: No irritating (rabbits).

Eye: Slight irritating (rabbits).

Allergenic and sensitizing effects: Skin sensitising may occur in sensitive individuals.

Chronic Toxicity

Imidacloprid caused thyroid and/or liver effects in chronic dietary studies in rats and dogs.

Mutagenicity

Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Beta-cyfluthrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Reproductive toxicity

REPRODUCTION: Imidacloprid was not a reproductive toxicant in a multi-generation study in rats.

DEVELOPMENTAL TOXICITY: Imidacloprid is not considered a primary developmental toxicant in rats and rabbits. Developmental effects were observed at doses that caused maternal toxicity.

DEVELOPMENTAL TOXICITY: Beta-cyfluthrin was not a primary developmental toxicant in rats. Developmental effects were observed but were considered secondary to maternal toxicity.

12. ECOLOGICAL INFORMATION

The following information is for the active ingredient, Beta-Cyfluthrin and imidacloprid.

Ecotoxicity:

Beta-Cyfluthrin

Birds Acute oral LD50 for Japanese quail >2000 mg/kg.

Fish LC50 (96 h) for rainbow trout 89, bluegill sunfish 280 ng/l.

Daphnia EC50 (48 h) 0.3 μg/l.

Algae ErC50 for Scenedesmus subspicatus >0.01 mg/l.

Bees LD50 <0.1 μg/bee.

Worms LC50 for earthworms >1000 mg/kg.

Imidacloprid

Birds Acute oral LD_{50} for Japanese quail 31, bobwhite quail 152 mg/kg.

Dietary LC_{50} (5 d) for bobwhite quail 2225, mallard ducks >5000 mg/kg.

Fish LC_{50} (96 h) for golden orfe 237, rainbow trout 211 mg/l.

Daphnia LC_{50} (48 h) 85 mg/l.

Algae ErC_{50} (72 h) for Pseudokirchneriella subcapitata >100 mg/l.

Bees Harmful to honeybees by direct contact, but no problems expected when not sprayed into flowering crop or when used as a seed treatment.

Worms LC_{50} for Eisenia foetida 10.7 mg/kg dry soil.

13. DISPOSAL CONSIDERATION

Disposal method: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

Empty container: Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

14. TRANSPORT INFORMATION

Road and Rail Transport

UN Number: 3082

UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS BIFENTHRIN AND IMIDACLOPRID)

Transport hazard class: 9

Packing group: III

Marine Transport

UN Number: 3082

UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS BIFENTHRIN AND IMIDACLOPRID)

Transport hazard class: 9

Packing group: III

IATA Transport

UN Number: 3082

UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS BIFENTHRIN AND IMIDACLOPRID)

Transport hazard class: 9

Packing group: III

15. REGULATORY INFORMATION

Hazard symbols:

Xn Harmful

Risk phrases:

R20/22 Harmful by inhalation and if swallowed.

Safety phrases:

S2 Keep out of reach of children.

S13 Keep away from food, drink and animal feeding stuffs.

S23 Do not breathe vapour or spray.

16. OTHER INFORMATION

Version: 1.0

Issue date: Oct. 10, 2021

This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.

END OF MSDS